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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/478,916 | 01/06/2000 | JARED L. ZERBE | 9797-050-999 | 2374 |
| 38426 | 7590 | 09/13/2004 | EXAMINER | |
| MORGAN LEWIS & BOCKIUS LLP/RAMBUS INC. 2 PALO ALTO SQUARE 3000 EL CAMINO REAL PALO ALTO, CA 94306 | | | VO, TIM T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2112 | |

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/478,916 | ZERBE ET AL. |
| Examiner | Art Unit | |
| Tim T. Vo | 2112 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 May 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 126-171 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 126-140 and 142-160 is/are rejected.
- 7) Claim(s) 141 is/are objected to.
- 8) Claim(s) 113-125 and 161-171 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 January 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

Part III DETAILED ACTION

Notice to Applicant(s)

1. Applicant's election without traverse of group II (claims 126-160) in the reply filed on 05/26/2004 is acknowledged.
2. Claims 113-125 and 161-171 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group I, there's being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/26/04.
3. Applicant is reminded to cancel nonelected group I claims 113-125 and 161-171.
4. This application has been examined. Claims 126-160 are pending.

Objection

5. Acronyms "PAM", "MSB", "LSB" need to spell out when they appear first time in the claims.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

7. Claims 1-42 of patent 6,396,329 contains every element of claims 126-160 of instant application and as such anticipates claims 126-160 of the instant application. Therefore, claims 126-160 of the instant application is not patently distinct from the earlier patent claims and as such is unpatentable for obvious-type double patenting.

8. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 126-140 and 142-160 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hui patent number 5,793,816.

As for claim 126 and 142, Hui teaches a multi-mode PAM output receiver for receiving a symbol (see figure 5, receiver 109, inputs X, Y, wherein the receiver 109 receives inputs symbol X, Y) the receiver comprising:

A receiver unit configured to receive the symbol (see figure 5, receiver 109, inputs X, Y, wherein the receiver 109 receives inputs symbol X, Y); and

Logic circuitry coupled to the receiver circuit (see figure 5, 307, 309 and column 5 lines 50-67);

Wherein the multi-mode PAM receiver is capable of operating in a specified mode of a plurality of predefined modes (see column 1 line 47 to column 2 line 14);

Wherein the received symbol is an N-PAM symbol when the specified mode is a first mode (see figure 5, input X is assigned to 1 of 4 levels of voltage signal values as disclosed in column 1 lines 47-65);

Wherein the received symbol is an M-PAM symbol when the specified mode is a second mode (see figure 5, input Y is assigned to 1 of 4 levels of voltage signal values as disclosed in column 1 lines 47-65); and

Wherein N is not equal to M (see figure 5, X, Y).

As for claims 127-131, 149-151, Hui teaches wherein the receiver outputs one or more binary signals synchronized to a clock signal (see figure 5, output P01, P02 and column 3 table A-B).

As for claim 132, Hui teaches the receiver circuit latches the symbol at a symbol rate selected from a plurality of predefined symbol rate (see figure 5).

As for claims 133, 140, Hui teaches the specified mode is a second mode, the receive symbol represents two or more bits including a most significant bit (MSB) and at least significant bit (LSB) (see figure 5, inputs A, B, X, Y represent binary bits as disclosed in table A-B).

As for claims 134-139, 146-148 and 156-160, Hui teaches wherein the received symbol represents at least a part of an address, a value, a part of a command in a memory system (see figure 5, input symbols A, B, X, Y).

As for claims 143-145, Hui teaches the multi-mode PAM output driver and multi-mode PAM receiver are embodied on a single integrated circuit (see figure 5).

As for claims 152-153, Hui teaches the symbol rate is determined by control logic, and the control logic determines the state of the mode signal based, at least in part, on the second stream signals (see figure 5, logic circuits 301, 303, 305).

As for claims 154-155, Hui teaches the symbol rate is selected from amongst a plurality of distinct symbol rates (see figure 5, tables A-B).

Allowable Subject Matter

10. Claims 141 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner's Statement of Reasons for Allowance

11. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claim 141 is allowable over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior arts. As for claim 141, prior art fails to teach the second receiver circuit includes a second LSB latching comparator to compare the input symbol to a third reference voltage and to generate a third signal representing a relationship between the symbol and the third reference voltage.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim T. Vo whose telephone number is 703-308-5862. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



09/10/2004

Tim T. Vo
Primary Examiner
Art Unit 2112